

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of:

Eugene S. SMOTKIN

Application No.: 09/891,200

Filed: June 26, 2001

For: ELECTROLYTE COMPONENTS FOR USE
IN FUEL CELLS (AS AMENDED)

Confirmation No.: 9382

Art Unit: 1795

Examiner: Raymond Alejandro

REPLY BRIEF

MS Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This brief is in reply to the Examiner's Answer mailed 30 May 2008.

A review of the Answer reveals that it is substantially verbatim from the Final Office Action, and appellant believes he has addressed the points made by the Examiner in his Brief.

Only the Response to Arguments contains a brief section which appears to be new. This is on pages 32-33, bridging paragraph. It is not entirely clear to appellant to which outstanding basis

for rejection these remarks apply. It appears that the Examiner is interpreting the requirement that the “area-specific resistance for protons in the range of 0.01-100 $\Omega\cdot\text{cm}^2$ ” in a specified temperature range as either indefinite or obvious as optimization. Appellant simply needs to clarify that this range is required in order to make the component suitable to serve as an electrolyte in a fuel. This range is not a result of optimization by appellant, but rather is a thickness dictated by the nature of the electronically insulating proton conducting coating (EIPC) and the requirements of operable fuel cells. Appellant does not understand the relevance of the point being made in this section of the Answer.

With respect to the remainder of the Answer, appellant wishes simply to summarize his position as follows:

The §112, Paragraph 2 Issue

Only claims 84-91 were rejected on this basis. Appellant has no further argument aside from that set forth in his Appeal Brief concerning this rejection. No additional arguments in support of this rejection appear to have been supplied in the Examiner’s Answer which require response.

Anticipation/Obviousness Over Baucke

Claims 75-76, 80-81, 84-85 and 89-90 were rejected as assertedly anticipated or obvious over Baucke, et al. (U.S. 5,094,927). Claims 77-79, 82, 87-88 and 91 are not included in the rejection. Although the Examiner’s rejection, has simply been repeated and appellant has responded to it in his Brief, the following summary may be helpful.

With respect to anticipation, the Examiner appears to have ignored the claim limitation that the proton-conducting membrane consists essentially of a *single* metal or metal hydride support

which is coated with an electron-insulating protein-conducting (EIPC) coating. As the electrolyte in Baucke is bracketed by *two* electrodes, the counterparts to the metal or metal hydride support of the claims, it does not consist essentially of a *single* metal or metal hydride support. As each and every element in the claim is not found in Baucke, Baucke cannot anticipate.

With respect to any assertion that Baucke makes the claimed invention obvious, appellant notes that Baucke cannot possibly suggest a membrane that consists essentially of a *single* metal or metal hydride support since the metal foils in Baucke are electrodes; two electrodes would automatically be required. There is no suggestion in Baucke that only a *single* metal or metal hydride support be employed.

In his Answer, the Examiner makes comments that are related to this distinction on page 35, first paragraph. Appellant is pleased that should the coated membrane further be included in a fuel cell, the invention might, in the Examiner's judgment, be patentable. It is correct that the invention is a structure containing only two defined elements and that should those two defined elements be found as claimed in the present invention in the art, the claims would be anticipated. However, no anticipation has been found. For the reasons set forth above, Baucke does not anticipate and no other document has been cited that has been alleged to do so. There is no coincidental anticipation here, and if the specific structure claimed is not suggested in the art, there is no reason to deny patentability because the structure is not sufficiently "complex".

In his rejection and in his Answer, the Examiner has simply read out of the prior art document, Baucke, the absolute requirement in Baucke that two metal components bracket the

electrolyte. The claims specifically exclude the disclosure of Baucke, and Baucke teaches away from a single metal foil. No argument based on obviousness has been made by the Examiner.

The Obviousness Rejections

There are no new rejections or additional assertions in the Examiner's Answer, and response has already been made in appellant's Brief. Again a short summary may be helpful. There are two basic rejections which are reiterated verbatim in the Examiner's Answer.

One set of rejections combines Smotkin (U.S. 5,846,669) as a primary reference with secondary references listed in the Examiner's Answer as Norby, Crome, Ryu (sometimes called Kwang) and Lybye (sometimes called Dorthé). The second basis for rejection based on obviousness combines the primary document WO '777, with the same secondary documents. Each of the secondary documents merely discloses an EIPC within the scope of the EIPC set forth in the claims without suggesting any effective way the EIPC could be used. As noted in the Brief, Norby, at least, considers the claimed EIPC materials inappropriate for use in fuel cells.

The Examiner appears to assume that appellant is relying on the preamble "designed to serve as an electrolyte in a fuel cell" for patentability. Quite the contrary is true – the Examiner appears to rely on the preamble for a suggestion to use these materials in the first place.

Applicants can find no suggestion anywhere in the documents taken together to coat the materials of the secondary references onto the palladium foil of Smotkin or onto the palladium silver alloy of WO '777.

In summary, appellant has solved the problem acknowledged by Norby that the EIPC described in the claims appears unsuitable for use as an electrolyte.

